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## NOTICE OF ALLOWANCE AND FEE(S) DUE

22879 7590 11/16/2010

HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
3404 E. Harmony Road  
Mail Stop 35  
FORT COLLINS, CO 80528

EXAMINER

SAINT CYR, LEONARD

ART UNIT

PAPER NUMBER

2626

DATE MAILED: 11/16/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,141

09/23/2003

Sherif Yacoub

200300101-1

2017

TITLE OF INVENTION: SYSTEM AND METHOD USING MULTIPLE AUTOMATED SPEECH RECOGNITION ENGINES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	02/16/2011

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.**

**THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.**

### HOW TO REPLY TO THIS NOTICE:

#### I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.**

# **PART B - FEE(S) TRANSMITTAL**

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

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Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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FORT COLLINS, CO 80528

## **Certificate of Mailing or Transmission**

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/668,141 09/23/2003 Sherif Yacoub 200300101-1 2017

TITLE OF INVENTION: SYSTEM AND METHOD USING MULTIPLE AUTOMATED SPEECH RECOGNITION ENGINES

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1510 \$300 \$0 \$1810 02/16/2011

EXAMINER	ART UNIT	CLASS-SUBCLASS
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SAINT CYR, LEONARD 2626 704-231000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 \_\_\_\_\_
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 \_\_\_\_\_
- 3 \_\_\_\_\_

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies \_\_\_\_\_

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number \_\_\_\_\_ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_

Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_

Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER

SAINT CYR, LEONARD

ART UNIT

PAPER NUMBER

2626

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### Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 882 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 882 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

**Notice of Allowability**

Application No.

10/668,141

Applicant(s)

YACOUB, SHERIF

Examiner

LEONARD SAINT CYR

Art Unit

2626

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/06/10.
2. ☒ The allowed claim(s) is/are 1, 4, 5, 8, and 11 - 20.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- \* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date ____     | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other ____.   |

## DETAILED ACTION

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with applicant's representative, Philip S. Lyren on 09/27/10.

The application has been amended as follows:

Claims 6, and 7 have been cancelled and claims 1, 8,11, and 14 have been amended as follow:

1. A method of automatic speech recognition (ASR), comprising:
  - receiving a speech utterance from a user;
  - assessing resources, **by a processor**, by monitoring both port utilization and processing utilization of each of a plurality of different ASR engines to determine which of the plurality of different ASR engines are busy serving users;
  - assigning the speech utterance to a single ASR engine when the plurality of different ASR engines are busy such that the port and processing utilizations are within a **set of** threshold ~~value~~ **values**;

assigning the speech utterance to the plurality of different ASR engines when the plurality of different ASR engines are not busy such that the port and processing utilizations are within a **another set of** threshold value **values**; and

generating text of the speech utterance with either the single ASR engine or the plurality of different ASR engines;

**wherein assigning the speech utterance to a single engine if processing utilization is within a threshold value when the port utilization of the single ASR engine is lower than a port utilization threshold of 80%.**

8. An automatic speech recognition (ASR) system comprising:  
means for processing a digital input signal from an utterance of a user;

means for evaluating resources of the ASR system to determine whether the ASR system is busy processing utterances of users by monitoring port utilization and available processing power of each of a group of ASR engines; and

means for selecting between a single ASR engine and the group of ASR engines to recognize the utterance of the user, wherein the means for selecting **means** utilizes the evaluation of resources to select the single ASR engine when the port utilization and available processing

power are within a **set of** threshold ~~value~~ **values** and the ASR system is busy processing the utterances of the users and to select the group of ASR engines when the port utilization and available processing power are within another **set of** threshold **values** and the ASR system is not busy processing the utterances of the users;

**wherein selecting the group of ASR engines to recognize the utterance of the user if available processing power is within a threshold value when the port utilization of two ASR engines is lower than a predefined threshold of 75 %.**

14. A system, comprising:

a computer system comprising a central processing unit coupled to a memory and resource management application; and

a plurality of different automatic speech recognition (ASR) engines coupled to the computer system, wherein the resource management application assesses resources being used by each of the plurality of different ASR engines by monitoring port utilization and available processing power of each of the plurality of different ASR engines, and the computer system select a single ASR engine to analyze a speech utterance when the system is busy such that the port utilization and the **available** processing power are within a **set of** threshold ~~value~~ **values** and selects

multiple ASR engines to analyze the speech utterance when the system is not busy such that the port utilization and the **available** processing power are within another **set of** threshold **values**;

**wherein selecting a single ASR engine to analyze the speech utterance if available processing power is within a threshold value when the port utilization of the single ASR engine is lower than a port utilization of 80%.**

In claim11, line 1, replace “combing” by -combining-.

***Allowable Subject Matter***

2. Claims 1, 4, 5, 8, and 11 - 20 are allowed over the prior art of record. The following is an examiner's statement of reasons for allowance:

After further search and thorough examination of the present application and in view of the Applicant's arguments and Appeal brief filed on 07/06/10, pages 11 – 17; claims 1, 4, 5, 8, and 11 - 20 are found to be in condition for allowance over the prior art made of record.

As to claims 1, 4, and 5, neither Keiller nor Lo et al., nor Bennett et al., nor Johnson nor Birkestrand et al., nor Watanabe et al., teach or suggest assessing resources, by a processor, by monitoring both port utilization and processing utilization of each of a plurality of different ASR engines to determine which of the plurality of



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different ASR engines are busy serving users; assigning the speech utterance to a single ASR engine when the plurality of different ASR engines are busy such that the port and processing utilizations are within a set of threshold values; assigning the speech utterance to the plurality of different ASR engines when the plurality of different ASR engines are not busy such that the port and processing utilizations are within a another set of threshold *values*; generating text of the speech utterance with either the single ASR engine or the plurality of different ASR engines; wherein assigning the speech utterance to a single engine if processing utilization is within a threshold value when the port utilization of the single ASR engine is lower than a port utilization threshold of 80%.

These limitations in conjunction with other limitations of the dependent and independent claims were not shown by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

As to claims 8, 11- 13, neither Keiller nor Lo et al., nor Bennett et al., nor Johnson nor Birkestrand et al., nor Watanabe et al., teach or suggest means for evaluating resources of the ASR system to determine whether the ASR system is busy processing utterances of users by monitoring port utilization and available processing power of each of a group of ASR engines; and means for selecting between a single ASR engine and the group of ASR engines to recognize the utterance of the user, wherein the selecting means utilizes the evaluation of resources to select the single ASR engine when the port utilization and available processing power are within a set of

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threshold values and the ASR system is busy processing the utterances of the users and to select the group of ASR engines when the port utilization and available processing power are within another set of threshold values and the ASR system is not busy processing the utterances of the users; wherein selecting the group of ASR engines to recognize the utterance of the user if available processing power is within a threshold value when the port utilization of two ASR engines is lower than a predefined threshold of 75 %.

These limitations in conjunction with other limitations of the dependent and independent claims were not shown by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

As to claims 14 - 20 neither Keiller nor Lo et al., nor Bennett et al., nor Johnson nor Birkestrand et al., nor Watanabe et al., teach or suggest a plurality of different automatic speech recognition (ASR) engines coupled to the computer system, wherein the resource management application assesses resources being used by each of the plurality of different ASR engines by monitoring port utilization and available processing power of each of the plurality of different ASR engines, and the computer system select a single ASR engine to analyze a speech utterance when the system is busy such that the port utilization and the available processing power are within a set of threshold values and selects multiple ASR engines to analyze the speech utterance when the system is not busy such that the port utilization and the available processing power are within another set of threshold values; wherein selecting a single ASR engine to analyze

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the speech utterance if available processing power is within a threshold value when the port utilization of the single ASR engine is lower than a port utilization of 80%.

These limitations in conjunction with other limitations of the dependent and independent claims were not shown by, would not have been obvious over, nor would have been fairly suggested by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD SAINT CYR whose telephone number is (571)272-4247. The examiner can normally be reached on Mon- Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil can be reached on (571) 2727602. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Leonard Saint-Cyr/

Examiner, Art Unit 2626